1) A study to characterize the distribution of political party affiliations among the currently enrolled juniors and seniors at CSU was done by the student government. A simple random sample (SRS) of 1214 current juniors/seniors from CSU was taken. The results are summarized in table 1 below. Use the setting description as well as the information in the table to answer the following questions:

<table>
<thead>
<tr>
<th></th>
<th>Republican</th>
<th>Democrat</th>
<th>Green</th>
<th>Independent</th>
<th>Libertarian</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>260</td>
<td>272</td>
<td>26</td>
<td>30</td>
<td>112</td>
</tr>
<tr>
<td>Female</td>
<td>202</td>
<td>240</td>
<td>24</td>
<td>40</td>
<td>8</td>
</tr>
</tbody>
</table>

1) Briefly describe the target population: (5 pts)

The target population is all currently enrolled juniors and seniors at CSU

2) Briefly describe the sampled population: (5 pts)

The sampled population is all currently enrolled juniors and seniors at CSU

3) Briefly describe the variable of interest in this study: (5 pts)

The variable of interest is political party affiliation

4) This type of variable can be categorized as: (Circle only one and defend your choice in 1 or 2 sentences.) (5 pts)

A) Quantitative  B) Qualitative

The variable is a qualitative one because political party affiliation is not numeric. Sample responses might be democrat, republican, libertarian, etc.

6) If the investigator were interested in estimating the proportion of currently enrolled CSU juniors and seniors affiliated with the Republican Party, the parameter of interest is: (5 pts)

Recall that a parameter is a numeric characteristic pertaining to the population. The parameter of interest is the proportion of currently enrolled CSU juniors and seniors who are affiliated with the republican party.
7) Since the two sampled populations have very different numbers of observations we need to convert to percentages in order to compare the responses from men and women. Construct a table that has the row percentages for each category split by gender. In other words there were a total of 514 women respondents in our study. The percentage of women who were affiliated with the Republican party is:

\[
P = \frac{202}{514} \times 100 = 39.3\%
\]

Complete the following table. (8 pts)

Table 2: Party Affiliation by gender for Juniors/Seniors at CSU [Percent in Category]

<table>
<thead>
<tr>
<th></th>
<th>Republican</th>
<th>Democrat</th>
<th>Green</th>
<th>Independent</th>
<th>Libertarian</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>37.1</td>
<td>38.9</td>
<td>3.7</td>
<td>4.3</td>
<td>16.0</td>
</tr>
<tr>
<td>Female</td>
<td>39.3</td>
<td>46.7</td>
<td>4.7</td>
<td>7.8</td>
<td>1.5</td>
</tr>
</tbody>
</table>

8) Construct a multiple bar chart that compares the distributions of gender split by political party affiliations. Be sure that your graphic is clearly labeled. (7 pts)

Problem 8: Multiple box plot for the distribution of Political Party Affiliation split by gender